

**F: CPT-2**  
**September 18, 1996**  
**Supersedes**  
**F: CPT-1**  
**June 2, 1995**

**DEPARTMENT OF THE TREASURY  
BUREAU OF ENGRAVING AND PRINTING  
WASHINGTON, DC 20228**

**BEP SPECIFICATION  
FOR  
FILM: COIL PACKAGING TRAY**

**1. SCOPE AND CLASSIFICATION**

**1.1 Scope.** This specification establishes performance and acceptance requirements for film suitable for manufacture of trays for the packaging of postage stamp coils in the Bureau of Engraving and Printing, hereinafter referred to as the "BEP".

**1.2 Classification.** This specification covers one type of plastic film, in two (2) widths. The plastic film shall be rigid, transparent, and suitable for thermoforming. They shall be identified as BEP stock item numbers **1L001479 and 1L001877.**

**2. APPLICABLE DOCUMENTS** The issues of the documents are those in effect on the date of the solicitation.

**2.1 Government Documents.**

**2.1.1 Specifications, Standards, and Handbooks.**

**Bureau of Engraving and Printing Specification:**

**F: CPL-1 Film: Coil Packaging Lidding**

**F: PCC-1H Film: Polyvinyl Chloride Coated**

**L: VAB-1A Specification for Vendor Affixed Barcode Labels  
for the Bureau of Engraving and Printing  
Materials**

(Request for copies should be addressed to the Contracting

Officer, Bureau of Engraving and Printing, 14th and "C" Streets, SW, Washington, DC 20228).

**MILITARY STANDARD**

**MIL-STD-105** - Sampling Procedures and Tables for Inspection by Attributes

(Copies of military standards are available from the Naval Air Technical Services Facility, Standardization Documents Order Desk Building 4D, 700 Robbins Avenue, Philadelphia, Pennsylvania 19111-5094).

**2.1.2 Other Government Documents, Drawings, and Publications.**

The following other Government documents, drawings, and publications form a part of this document to the extent specified herein.

**Bureau of Engraving and Printing Drawing:**  
**"Automatic Coil Stamp Processing System Coil Stamp Tray"**

**Bureau of Engraving and Printing Test Method:**  
**TSM-83-001 Peel Strength of Adhesive Bonds**

(Request for copies should be addressed to the Contracting Officer, Bureau of Engraving and Printing, 14th and "C" Streets, SW, Washington, DC 20228).

**29 CFR 1910, Part 1200** - Hazard Communication Standard (Occupational Safety and Health Administration) See also Federal Register, Vol. 48, No. 228, November 25, 1983.

**40 CFR 261** -- Identification and Listing of Hazardous Waste See also Federal Register, Vol. 55, No. 61, March 29, 1990.

**40 CFR 720** - Premanufacture Notification; Premanufacture Notice Requirements and Review Procedures.

**40 CFR 761** -- Polychlorinated Biphenyls (PCBs), Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions

**42 United States Code 6901 et seq., and 6962** - See also General Provisions for USC 6901 and Federal Procurement for USC 6962.

**Clean Air Act Amendments of 1990, Section 112, Air Toxics**  
(The Code of Federal Regulations(CFR) and the Federal Register(FR) are for sale on a subscription basis by the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. Reprints of certain regulations may be obtained from the Federal agency responsible for their issuance).

**District of Columbia Municipal Regulations (DCMR), Title 21, Discharge Standards, Chapter 15, Section 1501.4(c).**  
(Published by the Office of Air and Water Quality, Environmental Control Division, Department of Consumer and Regulatory Affairs, Government of the District of Columbia, 5010 Overlook Avenue, S. W., Washington, D.C. 20032).

**California's "Safe Drinking Water and Toxic Enforcement Act" of 1986 (Proposition 65)** (Requests for copies should be addressed to the State of California Health and Welfare Agency, 1600 Ninth Street, Room 450, Sacramento, California 95814).

**2.2 Non-Government Publications.** The following documents form a part of this specification to the extent specified herein.

**American National Standards Institute/American Society for Quality Control (ANSI/ASQC):**

**Q9002-1994 - Quality Systems -- Model for Quality Assurance in Production and Installation.**

(Request for copies should be addressed to the American Society for Quality Control, 611 East Wisconsin Avenue, Milwaukee, Wisconsin 53201-30052).

**American Society for Testing and Materials (ASTM) Methods:**

**D 374 -- Thickness of Solid Electrical Insulation**  
**D 618 -- Conditioning Plastics and Electrical Insulating Materials for Testing**

(Request for copies should be addressed to the American Society for Testing and Materials, 1916 Race Street, Philadelphia, Pennsylvania 19103-1137).

**National Motor Freight Classification Rules and Container**

## **Specifications**

(Request for copies should be addressed to the American Trucking Association, Incorporated, 2200 Mill Street, Alexandria, Virginia 22314-4677).

### **National Paint and Coatings Association's Hazardous Materials Identification System (HMIR<sup>R</sup>) of Labelling.**

(Request for copies should be addressed to American Label Mark Company, Label Maker Division, 5724 North Pulaski Road, Chicago, Illinois 60646-6797).

**2.3 Order of Precedence.** In the event of a conflict between the text of this document and the references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

**2.4 Internal References.** All paragraph and table references will be to paragraphs and tables of this specification, unless stated otherwise.

## **3. REQUIREMENTS**

**3.1 Materials.** The film shall be rigid, transparent, and suitable for thermoforming. The film should have a thickness of 0.369-0.451 mm (0.015-0.0178 inch). The variation in thickness of the film should not vary more than  $\pm 0.020$  mm (0.0008 inch) from edge to edge across the web. The film should be free from holes, tears, cracks, creases, and wrinkles. The film should contain no more than 10 specks or particles of foreign matter, such as dirt or carbonized material, per 1,000 cm<sup>2</sup> (approximately 1 ft<sup>2</sup>). The edges of the film should be linear, cleanly slit, and free from nicks.

**3.1.1 Recycled Material.** In accordance with the requirements of 42 United States Code 6901 et seq., and 6962, the BEP encourages the use of the highest percentage of recovered materials practicable in the manufacture and packaging of the finished materials specified herein, as long as all specification requirements are fulfilled.

**3.2 Performance in Processing.** The film shall be suitable for use on the BEP's automatic coiling and packaging equipment. This equipment is the Hassia "Thermoform, Fill, and Sealing Machine",

THL 28/22. This equipment is cited for information only, use of company and/or product name in this document does not imply approval or recommendation of the product in preference to others that may also be suitable. The film shall unwind, thermoform, seal, cut, and slit-perforate satisfactorily on BEP equipment.

Typically, the film is preheated to a temperature of  $115 \pm 5^{\circ}\text{C}$  ( $239 \pm 9^{\circ}\text{F}$ ), and is formed under air pressure of approximately 2 bars (29 psi). See Attachment 1, BEP drawing "Automatic Coil Stamp Processing System Coil Stamp Trays", for an illustration of the finished tray.

The film, after thermoforming into trays, shall seal to the lidding film described in Attachment 2, BEP specification:

**F: CPL-1, Film: Coil Packaging Lidding, dated June 6, 1995.** The sealing temperature will be in the range of  $95^{\circ}\text{C}$ - $110^{\circ}\text{C}$  ( $203^{\circ}\text{F}$ - $230^{\circ}\text{F}$ ) with a dwell time of 1.5-3.0 seconds under a pressure of 587 Kpa-1076 kPa (85 psi-156 psi).

The film should cut cleanly and easily, and should not adversely interfere with the cutting equipment. Also, the film should slit-perforate easily and uniformly without adversely affecting the slit perforating equipment.

**3.2.1 Product Performance** The seal shall be such that any attempt to remove the lidding film from the tray shall result in a visible, permanent indication that removal has occurred or has been attempted. The adhesion between the tray and lidding film shall be such that when the finished sealed tray containing coiled stamps is separated into strips or individual cups, the lidding film does not peel away from the tray, cause partial or complete opening of the cups being separated, cause partial or complete opening of adjacent cups, or cause partial or complete opening of any other cup in the tray.

Separation of a cup from the tray is done as follows: a strip of either A or B (see Illustration 1) is folded along a perforation, in the direction of lidding film to lidding film. The strip is then torn off in either a horizontal or upward vertical motion to separate it from the rest of the tray. The individual cups are separated from the strip of cups in the same manner.

### 3.3 Details of Rolls.

**3.3.1 Roll Construction.** The film delivered under this specification should be in rolls. The film should be wound as specified on fiber cores furnished by the contractor. The film should be wound concentrically to within  $\pm 0.8$  mm ( $\pm 0.030$  inch) and should have clean-cut linear edges. The film should be uniformly wound so that the roll will not telescope. The inner end of the film should be secured to the core. The outer end of the film should be secured to prevent the end of the film from unwinding before use. The rolls and cores should comply with the following requirements.

**TABLE I**  
**DETAILS OF ROLLS**

BEP Stock No.	1L001479		1L001877	
Width of roll millimeters (inches)	<u>Minimum</u> 192.0 (7.56)	<u>Maximum</u> 193.8 (7.63 )	<u>Minimum</u> 209.7 (8.26)	<u>Maximum</u> 211.7 (8.34)
Outside diameter of roll millimeters (inches)	508.0 (20.0)	560.0 (22.0 )	508.0 (20.0)	560.0 (22.0)
Inside diameter of core millimeters (inches)	75.0 (2.95)	77.0 (3.06)	75.0 (2.95)	77.0 (3.06)
Splices in any roll	0	3	0	3

**3.3.2 Splices.** All splices should be butt splices, constructed with brightly colored thermoformable tape. The tape color shall contrast with the film color. No splice should be within 20 m (65 ft) of the beginning or the end of a roll. Splices should not separate or cause equipment stops during unwinding of the rolls, feeding, and thermoforming of the film, filling of formed trays, heat sealing of the lidding film, and cutting and packaging of finished trays on BEP automatic coil packaging

equipment.

**3.3.3 Stability.** The film should show no evidence of deterioration or change in properties that would render it unfit for its specified usage when stored for periods not exceeding six months under normal atmospheric conditions.

**3.3.4 Roll Defects.** The rolls of film shall be clean and free from scraps, slitting residue, dirt, and other extraneous materials.

**3.4 Safety and Health in Handling, Printing, and Processing.**

**3.4.1 Material Safety Data Sheet (MSDS).** The contractor shall prepare an MSDS that complies with the Occupational Safety and Health Administration (OSHA) requirements as listed in 29 CFR 1910, Part 1200, paragraphs (g) and (i). No sample will be evaluated without an MSDS.

**3.4.2 Safety and Health.** The BEP retains the right to reject any material which causes an adverse effect upon its employees. Adverse effects include, but are not limited to: headache; eye, dermal, nasal, or throat irritation; sensitization, nausea, and dizziness.

**3.5 Environmental Requirements**

**3.5.1 Premanufacture Notification.** The contractor shall comply with the regulations set forth in 40 CFR Part 720, Premanufacture Notification. 40 CFR part 720 establishes premanufacture notification requirements under Section 5 of the Toxic Substances Control Act (TSCA).

**3.5.2 Proposition 65.** The film shall not contain any of the chemicals listed by California's "Safe Drinking Water and Toxic Enforcement Act of 1986" (Proposition 65) nor shall it contain any ingredient known to cause cancer or known to be a reproductive toxicant as recognized by the United States Environmental Protection Agency, Occupational Safety and Health Administration, and/or any of the individual states.

**3.5.3 Polychlorinated Biphenyls (PCBs).** The film shall not contain PCBs in excess of 2 parts per million. The contractor

may qualify as an excluded manufacturing process under 40 CFR 761.1 (f) (1) if copies of the certification required by the Environmental Protection Agency (EPA) are provided.

**3.5.4 Identification and Listing of Hazardous Waste.** The film shall not contain contaminants in excess of those listed in Table I, 40 CFR Part 261.24 for the Toxic Characteristics Leaching Procedure (TCLP).

**3.5.5 Air Toxics.** If the film contains any of the chemicals as an ingredient that are regulated as air toxics by the Clean Air Act Amendments of 1990, Section 112, the contractor shall prepare a list of the names and quantities (concentrations) of any such chemicals.

**3.5.6 Total Toxic Organics.** The film shall not contain as an ingredient any of the toxic organic chemicals listed in Title 21, DCMR, Chapter 15, Section 1501.4.

#### **4. QUALITY ASSURANCE PROVISIONS**

**4.1 Contractor Quality Assurance Plan.** The contractor shall have a quality assurance plan which describes their quality system. This plan shall include any additions or modifications required for the manufacture of tray film for the BEP. The quality assurance plan should address the requirements of the American National Standard Institute/ American Society for Quality Control (ANSI/ASQC), Quality Systems - Model for Quality Assurance in Production and Installation, Q9002. The quality assurance plan may be in the format currently used by the contractor or subcontractors, however, the preferred format is that of Q9002.

The quality assurance plan shall ensure that the film delivered to the BEP meets the requirements specified. The BEP may conduct periodic quality audits at the facilities of the manufacturer. The BEP accepts the counterpart in the International Standards Organization, ISO 9002, as technically equivalent to Q9002.

**4.1.1 Modifications of the Quality Assurance Plan.** During the term of the contract, contractors shall not deviate from the approved quality assurance plan without prior BEP approval. The contractor may propose changes to the quality assurance plan during the life of the contract. The proposed changes shall be submitted in writing to the COTR, with written justification for



the changes.

#### **4.2 Inspection and Testing.**

**4.2.1 Responsibility for Inspection and Testing.** Unless otherwise specified in the contract or purchase order, the supplier is responsible for the performance of all inspection and testing requirements as specified herein. Except as otherwise specified, the supplier may utilize his own facilities or any commercial laboratory acceptable to the BEP. The BEP reserves the right to perform any of the inspections and tests set forth in the specification. This will (may) include periodic quality audits at the facilities of the manufacturers.

**4.2.2 BEP Testing.** The BEP will evaluate the film, on BEP equipment for compliance with the requirements of paragraphs:

- o 3.2 Performance
- o 3.3.2 Splices

**4.2.3 Sampling.** Sampling for inspection and testing shall be conducted in accordance with MIL-STD-105. The Inspection Level (IL) and Acceptable Quality Level (AQL) shall be as follows:

**TABLE II  
SAMPLING FOR INSPECTION AND TESTING**

<b><u>Description</u></b>	<b><u>IL</u></b>	<b><u>AQL</u></b>
Testing and Inspection	S-1	1.5
Defects in Appearance and Workmanship	II	2.5
Defects in Preparation for Delivery	S-2	2.5

The lot size for the purpose of determining the sample size shall be expressed in units of delivery-size rolls. The sample unit for inspection and for tests not requiring the full roll shall consist of at least 4 m (13 ft) of film, taken after the first three layers of the roll have been removed.

**4.3 Testing.** Testing shall be conducted in accordance with the following methods. Reference to specific instruments is for information only; use of a company and/or product name in this document does not imply approval or recommendation of the product

in preference to others that may also be suitable. The BEP will work with the contractor to establish correlations between various instruments when required.

**4.3.1 Test Conditions.** Film samples shall be conditioned and tested under environmental conditions that meet the requirements of ASTM D 618.

**4.3.2 Thickness.** The thickness of the film shall be determined according to ASTM D 374, Method C.

**4.4 Inspection.** Inspections shall be conducted for the requirements listed below by paragraph, in accordance with the methods given:

**TABLE III  
INSPECTION**

<b><u>Paragraph/Requirement(s)</u></b>	<b><u>Inspection Method</u></b>
3.1/Workmanship	Visual evaluation
3.3.1/Roll Construction	Visual evaluation, measurement
3.3.2/Splice Construction	Visual evaluation of construction
3.3.3/Stability	Visual evaluation
5./Preparation for Delivery	Visual evaluation, measurement

**4.5 Contractor Documentation.** The contractor shall provide the following documentation on the film supplied.

**4.5.1 Certification.** The contractor shall certify that all film supplied under this specification meets all of the requirements of this specification. The certification shall include a statement of the recycled material content of the film. The contractor shall also certify that the film conforms to all the requirements of this specification when shipped and stored under the conditions stated in Paragraph 3.3.3. Signed certification for each shipment of film supplied to the BEP shall accompany the reports of inspections and tests and be received with or before

shipment.

**4.5.2 Reports.** The contractor shall furnish the BEP (to the COTR, Contracting Officer's Technical Representative) copies of reports showing the results of inspections and tests for each lot. The reports shall also include the number of delivery-size rolls made from each lot. The reports shall be forwarded to BEP with or before shipment.

## **5. PREPARATION FOR DELIVERY**

**5.1 Packaging and Packing.** The packaging and packing shall comply with any applicable Department of Transportation Rules and Regulations and shall comply with the applicable requirements of the National Motor Freight Classification Rules and Container Specifications.

**5.1.1 Roll Wrapping.** Each roll shall have wooden, metal, or plastic plugs inserted in each end of the core prior to shipment that will prevent collapse of the core during handling in the BEP. Each roll of film shall be wrapped in plastic or paper in such a manner that will prevent exposure to dirt and damage to the sides, edges, and ends of the rolls.

**5.1.2 Packing.** The contractor shall deliver all rolls on skids. There should be 20 rolls per skid, except the end skid of a shipment, which may contain fewer rolls. The rolls should be stacked on their sides, in layers of four each and covered with a corrugated or wooden top. There shall be a sheet of rigid plastic or corrugated board between each layer of rolls. The skidload shall be wrapped, and strapped with a strapping material so that no shifting of the rolls occurs during transit or during subsequent BEP storage and handling.

**5.1.3 Alternate Methods.** The contractor may request authorization for alternate methods of packaging from the contracting officer prior to the shipment of any rolls.

## **5.2 Marking.**

**5.2.1 Skidload Marking.** Each skidload shall be legibly marked on two opposite sides with the following:

- o "COIL TRAY FILM"
- o BEP stock number

- o Gross weight of loaded skid (given in both kilograms and pounds)
- o Total length of rolls (given in both meters and feet)
- o Date of manufacture
- o BEP purchase order number
- o Contractor's name

**5.2.2 Roll Marking.** Each roll shall have a label within the core. Information on the label shall include the following:

- o BEP stock number
- o Roll net weight
- o Roll length
- o Manufacturer's lot number
- o BEP purchase order number
- o Contractor's name
- o Date of manufacture

**5.2.3 Size and Color of Marking.** The skidload markings shall be legible, not less than 25 mm (1 inch) high and of a color contrasting to that of their backgrounds. The core label markings shall be legible, not less than 5 mm (0.2 inch) high and of a color contrasting to that of their backgrounds.

**5.2.4 HMIS<sup>R</sup>.** The contractor shall comply with all requirements of the Hazardous Material Information System.

**5.3 Barcode Labels.** The labels shall conform to the "Specification for Vendor Affixed Barcode Labels for Bureau of Engraving and Printing Materials". The Part# cited is the BEP Stock Item Number. Each pallet shall be labelled with the barcode information in the following examples in accordance with the categories in section 2.1 of the barcode label specification. Each label shall be placed on the top and two opposite sides of the pallet. See section 2.1.1 of this specification.

**TABLE IV**  
**BARCODE INFORMATION**

**Specification**

Serial/Lot #  
Weight

Product Description  
PO #  
Part #  
Quantity

**Label Information**

COIL TRAY FILM  
Purchase Order Number  
1L001479 or 1L001877  
Number of rolls on pallet and  
its equivalent in meters/feet  
Manufacturer's Lot Number  
Net weight of roll in Kg/lb

**6. NOTES**

**6.1 Intended Use.** Coil packaging tray film BEP stock number 1L001479 and 1L001877 covered by this specification are for manufacture of trays for the packaging of pressure sensitive and water activated postage stamp coils in the BEP.

**6.2 Definitions.** Certain words and phrases are frequently used in this specification. The following rules will apply:

**6.1.1 "Shall",** the emphatic form of the verb, is used whenever a requirement is intended to express a provision that is binding.

**6.1.2 "Will",** is intended to express a declaration of purpose on the part of the government. It may also be used to indicate simple futurity.

**6.1.3 "Should"** is used whenever a non-mandatory characteristic is judged to be desirable for the material or product. As such, this characteristic may be graded during the evaluation of the material in order to assist in the selection of the best qualified material.

(END)